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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/491,527	01/26/2000	Jay K. Bass	10990629-1	8637

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EXAMINER

ALLEN, MARIANNE P

ART UNIT PAPER NUMBER

1631

DATE MAILED: 08/28/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/491,527

Applicant(s)

BASS, JAY K.

Examiner

Marianne Allen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 25-34 is/are pending in the application.
- 4a) Of the above claim(s) 1-18 and 29-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-23 and 25-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim 24 has been cancelled.

Applicant's arguments filed 6/13/02 have been fully considered but they are not persuasive.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

This application contains claims 1-18 and 29-34 drawn to an invention nonelected with traverse in Paper No. 4. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 112

Claims 22-23 and 25 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This is a new matter rejection.

Claim 22 has been amended to recite that the image capture system includes a processor. No basis has been pointed to and none is apparent for such an apparatus. While page 14, lines 8-19, discloses an image capture system having a linescan camera and processor, the claim is not limited as to a linescan camera. In addition, the processor disclosed here includes image extraction. Furthermore, such a limitation now requires

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the apparatus to have two processors (one as recited in claim 22 and one as recited in claim 19). This does not appear to be disclosed.

Likewise, claim 25 now requires that the drop deposition system include a processor. No basis has been pointed to and none is apparent for such an apparatus. The specification does not appear to clearly define what the drop deposition system includes and again such a limitation now requires the apparatus to have two processors (one as recited in claim 25 and one as recited in claim 19). This does not appear to be disclosed.

Note that the claims do not indicate that the processors referred to in the dependent claims are the same processor as in claim 19.

Claim Rejections - 35 USC § 102

Claims 19-20, 22-23, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by McGall et al. (U.S. Patent No. 6,238,862).

This rejection is maintained for reasons of record.

Applicant argues that McGall et al. does not disclose the image capture system element of claim 19. This is not agreed with. For example, Figure 2 shows areas R1, R2, and R3. During the course of the coupling reactions, each of these areas would be imaged multiple times (even if part of an overall array image). Note that intermediate and overall coupling efficiencies are discussed indicating that multiple images must be made. (See in particular column 7, lines 12-20.) The reference discloses that the coupling efficiency between different areas are determined using image analysis. (See columns 7-8 and 11-13.)

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Applicant's assertion that coupling efficiency is determined only by cleavage is incorrect. That embodiment is disclosed as an alternate method. (See column 8, lines 13-24.)

As such, McGall et al. fairly discloses the image capture system element of claim 19.

Applicant also argues that the processor that generates an overlay composite from the image set in claim 19 is not taught. This is not agreed with. The content of the overlay composite is not specified. The efficiency determination is deemed to meet the limitation of an overlay composite as information from at least one same location on the set of images is compared using some function. While the disclosed method compares multiple sites with each other; nevertheless, it is clear that the same site is also compared against itself to provide an overall efficiency of oligonucleotide synthesis at the feature location. Note that correction of background non-specific binding of labels and so forth would require information from at least one same location on the images to be combined or compared. Such corrections are routinely performed in array analysis.

In addition, it is noted that the reference further teaches imaging the array at several time points to determine amount of total hybridization. (See column 13, lines 42-47.) This would also meet the limitations of the claim.

Note that the claim does not require that each image in the image set represent only one target feature location. Each image could include multiple target feature locations or the whole array. Further note that the claim language of claim 19 does not require one image following each droplet but fairly includes multiple images following deposition of multiple droplets or after only one droplet.

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Finally, claim 27 does not require a processor. The claim requires only storage of the images.

Claims 19-23 and 25-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Fisher (U.S. Patent No. 6,232,072).

This rejection is maintained for reasons of record.

Applicant is directed to column 8, lines 19-30, disclosing analysis of droplet characteristics to be used to correct fabrication. The reference fairly teaches comparison of the array with expected characteristics after depositing each set of droplets. The results from one image influences the dispensing of subsequent droplets which are also imaged and again analyzed for droplet characteristics. This information would have to be saved or stored in such a form as to meet the claim limitation of overlay composite as information from at least one same location is combined or compared. The image information would have to be saved also.

Note that claims 27-28 do not require a processor. The claims require only storage of the images.

Note that this rejection does not imply that applicant has basis for the instant claims as written in the Fisher patent or any continuing application therefrom. Fisher discloses a particular embodiment that falls within the present broad claims.

The art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Bass (U.S. Patent No. 6,399,396) discloses and claims an apparatus and method for transferring one or more liquid samples.

Bass (U.S. Patent No. 6,406,851) discloses and claims methods for coating a substrate with small volumes of fluid.

Bass (U.S. Patent No. 6,420,180) discloses and claims methods for multiple pass deposition for chemical array fabrication.

None of these patents is prior art against the instant application.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne P. Allen whose telephone number is 703-308-0666. The examiner can normally be reached on Monday-Friday, 9:00 am - 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward can be reached on 703-308-4028. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-305-3014 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Marianne P. Allen

Marianne P. Allen
Primary Examiner
Art Unit 1631

mpa

August 26, 2002